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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/777,299

02/12/2004

Paul E. Share

13015/39281

5310

62127 7590 07/22/2009
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EXAMINER

DANIELS, MATTHEW J

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

07/22/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/777,299	Applicant(s) SHARE ET AL.	
	Examiner MATTHEW J. DANIELS	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-12,14-21 and 25-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-12,14-21 and 25-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11 May 2009 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Rejections over Collette or Nilsson in view of Collette

2. **Claims 1-4, 6-15, 17-21, 25-30** are rejected under 35 U.S.C. 103(a) as obvious over Collette (5759653).

As to Claim 1, Collette teach a method comprising the steps of: (a) forming a preblend/masterbatch (col 5 lines 6-7) comprising: a diluent polyester (col 5 line 17), a polyamide material (col 5 line 18), and an oxygen scavenging material (col 5 line 19) having the claimed concentration (10:30-37 and Claim 16); providing a base/core layer polyester (col 5 line 31); introducing the preblend and the base polyester into a molding apparatus to permit melting and admixing of the preblend and the base polyester (col 5 lines 29-65); injection molding or extruding the admixture in the apparatus to provide a preform (fig 3, **59**); and expanding the

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preform to provide a plastic container having a barrier layer formed from the admixture of the preblend and polyester (fig 6 & 7), wherein the plastic container and barrier layer has oxygen scavenging property that is activated after filling the container with an aqueous fluid (7:24-33, 7:59-63, 8:46-51). Collette also teaches forming bottles with catalysts that are activated by heat (7:32) and hot fill applications (7:61), which would therefore activate the catalyst during filling. If it is ultimately determined that Collette activates before filling, this limitation is drawn merely to a rearrangement of process steps disclosed by the prior art, and in view of Collette's teaching of methods in which the catalysts are activated, one would have found it obvious to rearrange the order of filling and activation.

Collette does not explicitly teach that the container is "stable during unfilled storage". However, in this regard, Collette suggests that catalysts are activated by oxygen (7:30), heat (7:32), or moisture (7:2-6), and that the stability (shelf life) of the bottles may be improved by refrigeration, desiccation, or storing in a modified atmosphere environment (7:24-28). Thus, although Collette is silent to the stability, Collette teaches storage conditions which would improve the stability of the bottle.

As to Claim 2, Collette teach that the plastic container is a multilayer plastic container (fig 7).

As to Claim 3, Collette suggest that monolayer plastic containers are known and conventional in the prior art (col 1 lines 47-51).

As to Claim 5, Collette teaches the same preblending process, and (see the rejection of Claim 1 above), and thus the preblend would implicitly exhibit the claimed characteristics despite that Collette is silent to comparing the preblend with the claimed hypothetical mixture.

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As to Claim 6, Collette et al teach that the preblend is in a form of solid particles (col 5 line 26).

As to Claim 7, Collette et al teach that the diluent polyester is present in the preblend in an amount of about 25% to about 75%, by weight of the preblend (col 16 line 3-7).

As to Claim 8, Collette et al teach that the diluent polyester comprises polyethylene terephthalate and polyethylene naphthalate (col 14 line 22-27).

As to Claim 9, Collette teaches that the base polyester contains a substantial portion virgin PET, which would implicitly be bottle grade (16:12-14). It is noted that Claim 19 of Collette is drawn to “on the order of 50% post consumer PET” (15:15-20). However, the Examiner’s position will be that the additional post consumer PET does not materially affect the basic and novel characteristics of the claimed invention because it provides PET material which would have the same or substantially the same structure as the virgin material.

As to Claim 10, Collette et al teach that the polyamide material is present in the preblend in an amount of about 25% to about 75%, by weight of the preblend (col 15 line 7-11).

As to Claim 11, Collette et al teach that the polyamide material comprises a polymer containing m-xylylenediamine monomer units (col 10 line 51).

As to Claim 12, Collette et al teach that the polyamide material comprises a polymerization product of m-xylylenediamine and adipic acid (col 10 lines 51-52).

As to Claims 13-15, Collette et al teach an oxygen scavenging material present in the preblend in an amount of about 50 to about 1000 parts per million, by weight and comprises cobalt or a metal complex thereof (col 10 lines 24-37).

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As to Claim 17, Collette et al teach that the base polyester is in a form of solid particles (col 5 lines 59-67).

As to Claim 18, Collette et al teach that the preblend and the base polyester are admixed in an amount of about 0.5% to about 20%, by weight, of the preblend, and about 80% to about 99.5%, by weight, of the base polyester (col 16 lines 8-11).

As to Claim 19, Collette et al teach that the base polyester is polyethylene terephthalate (col 5 line 31).

As to Claim 20, Collette et al teach that the polyethylene terephthalate comprises a virgin bottle grade polyethylene terephthalate, a post consumer grade polyethylene terephthalate, or a mixture thereof (col 5 lines 11-32).

As to Claim 21, Collette et al teach that the preform contains about 10 to about 80 ppm, by weight, of the oxygen scavenging material (col 1 line 53).

As to Claim 25, Collette teaches that the containers are maintained in refrigeration or desiccation (7:25-28), and hot filling (7:61) or filling with water (8:46-51), which would inherently activate the oxygen scavenging property for those catalysts which activate at room temperature (7:29-30). Alternatively, this aspect of the invention is drawn to a rearrangement of process steps disclosed in the prior art, which is generally deemed to be prima facie obvious. In view of Collette's teaching that the scavengers are activated by heat and moisture (), it would have been obvious to activate the scavengers with a hot product (7:61) containing moisture ()

As to Claim 26, Collette's teaching of the claimed process steps and ingredients, when used to form a package, would implicitly meet the claimed result.

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As to Claim 27, Collette teach a method comprising the steps of: (a) forming a preblend/masterbatch (col 5 lines 6-7) comprising: a diluent polyester (col 5 line 17), a polyamide material (col 5 line 18), and an oxygen scavenging material (col 5 line 19); providing a virgin grade polyester (col 16, lines 12-14), and it is submitted that the remainder is substantially indistinguishable from virgin grade polyester; introducing the preblend and the polyester into a molding apparatus to permit melting and admixing of the preblend and the base polyester (col 5 lines 29-65); injection molding or extruding the admixture in the apparatus to provide a preform (fig 3, **59**); and expanding the preform to provide a plastic container having a barrier layer formed from the admixture of the preblend and polyester (fig 6 & 7), wherein the plastic container and barrier layer has oxygen scavenging property that is activated after filling the container with an aqueous fluid (7:24-33, 7:59-63, 8:46-51). Collette also teaches forming bottles with catalysts that are activated by heat (7:32) and hot fill applications (7:61), which would therefore activate the catalyst during filling.

Collette does not explicitly teach (a) the admixture consists essentially of the preblend and virgin bottle grade polyester, or (b) the permeability change achieved by the filling with water. However, these aspects of the invention would have been prima facie obvious for the following reasons:

(a) The admixture of Collette contains virgin PET (See Claim 28), but also contains post consumer PET. However, because the material is the same or substantially the same as the remainder of the preblend material, it would not materially affect the basic and novel characteristics of the invention, and thus this transitional language would still read on the method of Collette.

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(b) The claimed process steps and ingredients of Collette, when used to form a package according to Collette's teachings, would implicitly meet the claimed result.

As to Claim 28, Collette et al teach a transition metal oxygen scavenging material present in the preblend in an amount of about 50 to about 1000 parts per million (col. 10, lines 23-37), the polyamide material is present in the preblend in an amount of about 10-50% by weight of the preblend (col 15 line 7-11), and the polyester comprising PET used in a percentage of about 50-90% (col 15, lines 3-4).

As to Claim 29, Collette et al teach a transition metal oxygen scavenging material present in the preblend in an amount of about 50 to about 1000 parts per million (col. 10, lines 23-37), the polyamide material is present in the preblend in an amount of about 10-50% by weight of the preblend (col 15 line 7-11), and the polyester comprising PET used in a percentage of about 50-90% (col 15, lines 3-4).

As to Claim 30, the base polyester contains virgin polyethylene terephthalate (col 16, lines 12-14).

3. **Claims 31-33** are rejected under 35 U.S.C. 103(a) as obvious over Nilsson (USPN 5034252) in view of Collette (5759653). **As to Claim 31**, Nilsson teaches mixing polyethylene terephthalate, polyamide, and an oxygen scavenging material (col 3, lines 29-50), making a monolayer preform by injection molding and expanding it to provide a plastic container (5:1-41). The article of Nilsson would have stability during storage (an aging process is required to cause activation), and the activation resulting from filling appears to be an intended use in view of the

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fact that it is not recited as a particular step, but is recited within a step of expanding. Nilsson is silent to the preblend process of step (a) and mixing the preblend with the base polyester.

However, Collette teach a method comprising the steps of: (a) forming a preblend/masterbatch (col 5 lines 6-7) comprising: a diluent polyester (col 5 line 17), a polyamide material (col 5 line 18), and an oxygen scavenging material (col 5 line 19); providing a base grade polyester (col 15, lines 12-20, col 16, lines 12-14); introducing the preblend and the polyester into a molding apparatus to permit melting and admixing of the preblend and the base polyester (col 5 lines 29-65); injection molding or extruding the admixture in the apparatus to provide a preform (fig 3, 59); and expanding the preform to provide a plastic container having a barrier layer formed from the admixture of the preblend and polyester (fig 6 & 7), wherein the plastic container and barrier layer has oxygen scavenging property that is activated after filling the container with an aqueous fluid (7:24-33, 7:59-63, 8:46-51). Collette also teaches forming bottles with catalysts that are activated by heat (7:32) and hot fill applications (7:61), which would therefore activate the catalyst during filling. It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Collette into that of Nilsson in order to provide improved mixing of the constituent materials.

As to Claim 32, Collette et al teach a transition metal oxygen scavenging material present in the preblend in an amount of about 50 to about 1000 parts per million (col. 10, lines 23-37), the polyamide material is present in the preblend in an amount of about 10-50% by weight of the preblend (col 15 line 7-11), and the polyester comprising PET used in a percentage of about 50-90% (col 15, lines 3-4). **As to Claim 33**, Collette et al teach a transition metal oxygen scavenging material present in the preblend in an amount of about 50 to about 1000 parts

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per million (col. 10, lines 23-37), which reads on the claimed amount or suggests the result-effective nature of this component.

Response to Arguments

4. Applicant's arguments filed 11 May 2009 have been fully considered but they are not persuasive. The arguments appear to be on the following grounds:

a) The passage cited by the Examiner does not demonstrate the claimed range since what Collette discloses is the range in the first blend.

b) Collette does not teach a method for forming a container having the features recited in Claim 1, clause (f). Collette provides a scavenging layer which is activated during production prior to filling.

c) Claim 27 is allowable over Collette because Collette uses a substantial amount of PC-PET and Collette activates before filling.

d) Nilsson teaches an aging process to activate the oxygen-scavenging property, and therefore it cannot be activated as a result of filling. Collette teaches to include PC-PET and to provide the scavenging layer as an inner layer.

5. These arguments are not persuasive for the following reasons:

a) Applicants do not consider by what amount the first blend is diluted in the second process, and it is submitted that when the dilution level of Collette is considered, it meets the claimed range.

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b,c) The Examiner maintains the position set forth previously and reiterated above. It is submitted that the PC-PET is substantially indistinguishable from virgin PET. Note column 11 of Collette where Collette describes the exceedingly high purity of the PC-PET. The PET described at col. 11, lines 50-55 include at most less than 0.4% contaminants, and therefore appears to meet the “consisting essentially of” transitional phrase. Applicants have not distinguished or compared the claimed composition from that described by Collette (and the instant specification would appear to undermine such an argument), but assert merely that the prior processing (the fact that it is post-consumer) distinguishes the claimed composition from the prior art. However, without any comparison of the claimed material with the material of Collette, there is little support for the position that the Collette composition falls outside the claimed range since the PC-PET appears to be the same as virgin PET.

d) The “wherein activation results from filling” appears to be an intended use, and at a point before the aging of Nilsson, the article would meet this intended use. If filling is desired as a separate step in the process, wherein the step of filling activates the preform, then it is suggested that this step (a step of filling) be recited separately so as to distinguish it from an intended use. If the step of filling, wherein the filling activates the preform, were recited as a separate step (f), it would likely overcome the rejection over Nilsson in view of Collette above since Nilsson does teach a step of aging the preform.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW J. DANIELS whose telephone number is (571)272-2450. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew J. Daniels/
Primary Examiner, Art Unit 1791
7/20/09